MULTIPLE CHOICE

MSK ELBOW WRIST AND HAND - PRACTICE SET - ANSWER KEY

1. The distal triceps tendon inserts on which bony landmark?

A. Radial tuberosity
B. Medial epicondyle of the humerus
C. Olecranon process of the ulna
D. Coronoid process

2. Guyon's canal compression typically affects which nerve?

A. Median nerve
B. Posterior interosseous nerve
C. Radial nerve
D. Ulnar nerve

3. Increased color or power Doppler flow within a thickened, hypoechoic common extensor tendon at the lateral epicondyle most likely represents:

A. Normal intratendinous vascularity
B. Neovascularity associated with tendinosis
C. Arteriovenous fistula
D. Septic tenosynovitis

4. Which sonographic finding most strongly supports a diagnosis of carpal tunnel syndrome?

A. Diffuse hyperechoic enlargement of the median nerve
B. Enlarged hypoechoic median nerve with increased cross-sectional area at the proximal carpal tunnel
C. Anechoic fluid surrounding the flexor tendons only, with a normal-sized nerve
D. Hyperechoic foci within the transverse carpal ligament

5. Which sonographic approach is most useful for visualizing the distal biceps tendon insertion on the radial tuberosity?

A. Anterior approach with the elbow extended and forearm supinated
B. Medial approach with the forearm pronated
C. Lateral approach with the wrist in neutral
D. Posterior approach with the elbow flexed 90 degrees

6. On longitudinal ultrasound of a normal flexor tendon in the finger, the appearance should be:

A. An anechoic tubular structure with through-transmission
B. A linear fibrillar hyperechoic band gliding smoothly beneath the pulleys during passive motion
C. A discontinuous hyperechoic band with adjacent fluid
D. A heterogeneous hypoechoic mass with internal vascularity

7. Sonographic findings of extensor carpi ulnaris (ECU) subluxation are best demonstrated by:

A. Dynamic imaging during supination with the wrist in ulnar deviation
B. Compression of the dorsal capsule of the radiocarpal joint
C. Imaging only in long axis with the wrist neutral
D. Static imaging with the wrist in full pronation

8. Which structure is part of the triangular fibrocartilage complex and serves as a primary stabilizer of the distal radioulnar joint?

A. Annular ligament
B. Lateral ulnar collateral ligament
C. Flexor retinaculum

D. Dorsal and volar radioulnar ligaments

9. The most common location of a dorsal wrist ganglion is:

A. Over the scapholunate ligament
B. Over the first extensor compartment
C. Over the pisotriquetral joint
D. Over the distal radioulnar joint

10. Which structure is the primary stabilizer against valgus stress at the elbow and is therefore the focus of sonographic evaluation in overhead-throwing athletes?

A. Lateral ulnar collateral ligament
B. Radial (lateral) collateral ligament
C. Annular ligament
D. Anterior bundle of the ulnar (medial) collateral ligament

11. For a complete distal biceps tendon tear, the most reliable sonographic finding is:

A. Diffuse hypoechoic thickening of the tendon
B. Nonvisualization of the tendon at the radial tuberosity with retracted tendon stump
C. Hyperechoic foci within the tendon without retraction
D. Mild fluid in the bicipitoradial bursa with intact tendon

12. Olecranon bursitis is best differentiated from a posterior elbow joint effusion by:

A. The bursa is a superficial subcutaneous collection over the olecranon, separate from the joint
B. Bursal fluid is always echogenic and effusions are always anechoic
C. The bursa lies deep to the triceps tendon within the olecranon fossa
D. Joint effusions are always smaller than bursal collections

13. Medial epicondylitis (golfer's elbow) primarily involves the common origin of which muscle group?

A. Common extensor tendon
B. Common flexor tendon (flexor-pronator group)
C. Biceps brachii tendon
D. Triceps tendon

14. On ultrasound, which finding favors a partial-thickness rather than a full-thickness tear of the common extensor tendon at the lateral epicondyle?

A. Diffuse fatty replacement of the tendon
B. Complete absence of the tendon at the lateral epicondyle
C. A focal hypoechoic or anechoic cleft within the tendon without complete fiber discontinuity
D. Cortical irregularity of the radial head without tendon abnormality

15. Which finding helps differentiate a peripheral nerve from a tendon in short-axis ultrasound?

A. Tendons show a honeycomb pattern; nerves show a fibrillar pattern
B. The nerve shows a honeycomb fascicular pattern; the tendon shows a tightly packed fibrillar pattern
C. Both have identical short-axis appearances and require Doppler to differentiate
D. Nerves are anechoic; tendons are anechoic with through-transmission

16. The transverse carpal ligament forms which boundary of the carpal tunnel?

A. The volar (palmar) roof
B. The dorsal floor
C. The ulnar wall
D. The radial wall

17. On ultrasound, a 'mallet finger' is best characterized by:

A. Subluxation of the central slip over the PIP joint
B. Tear of the A1 pulley at the MCP joint
C. Avulsion of the flexor digitorum profundus from the distal phalanx
D. Disruption of the extensor tendon at its insertion on the distal phalanx, often with a small dorsal bony avulsion

18. During ultrasound of the elbow joint, a small posterior fluid collection in the olecranon fossa with the elbow flexed about 90 degrees most likely represents:

A. A joint effusion
B. A complete triceps tendon tear
C. An olecranon bursitis only

D. A normal anatomic structure that requires no follow-up

19. Lateral epicondylitis (tennis elbow) most commonly involves which tendon at its origin on the lateral epicondyle of the humerus?

A. Pronator teres
B. Extensor carpi radialis brevis
C. Extensor carpi ulnaris
D. Flexor carpi radialis

20. Which sonographic finding best supports trigger finger at the A1 pulley?

A. Hyperechoic foci shadowing within the median nerve
B. Anechoic distention of the radiocarpal joint
C. Thickened hypoechoic A1 pulley with dynamic catching of the flexor tendon during finger flexion
D. Subcutaneous edema dorsal to the metacarpal head

21. On sonographic stress testing of the ulnar collateral ligament, a finding of increased medial ulnohumeral joint gapping during valgus stress compared with the contralateral side most likely indicates:

A. Normal physiologic laxity
B. Ulnar collateral ligament injury or insufficiency
C. Common flexor tendinosis
D. Olecranon bursitis

22. When evaluating for dynamic ulnar nerve subluxation at the cubital tunnel, the patient should be examined with:

A. The wrist passively flexed and extended
B. The elbow imaged in short axis while moving from extension into full flexion
C. The elbow imaged only in long axis during pronation
D. The elbow held in static full extension throughout

23. For sonographic evaluation of the wrist and finger tendons, which transducer is generally most appropriate?

A. Low-frequency curvilinear transducer (3 to 5 MHz)
B. Phased-array sector transducer
C. Intracavitary endoluminal transducer
D. High-frequency linear-array transducer (commonly 12 to 18 MHz or higher)

24. A bifid median nerve in the carpal tunnel is often associated with which vascular variant?

A. Persistent median artery
B. Aberrant ulnar artery
C. Superficial palmar arch absence
D. Radial artery duplication

25. Which sonographic finding is most characteristic of chronic common extensor tendinosis at the lateral epicondyle?

A. Focal hypoechoic thickening with loss of fibrillar pattern
B. Diffuse anechoic thinning of the tendon
C. Anechoic fluid-filled tendon sheath
D. Hyperechoic foci with comet-tail artifact throughout the tendon